

# Drysdale<sup>®</sup>

## MILLING WHEAT

### VARIETY SUMMARY

- White, hard grained wheat, classified AH in SNSW
- Transpiration efficient (increased water-use efficiency)
- Short season maturity, similar to Hartog, Bowerbird and Yitpi
- Acid soils tolerant
- Excellent long term yield results in medium to low rainfall areas in NSW

### BREEDING

Pedigree: Drysdale (QH-71-2) has the pedigree Hartog\*3/Quarrion.

Drysdale was developed by the CSIRO in conjunction with NSW Agriculture, for release in 2002.

### AREA OF ADAPTATION

Drysdale is best adapted to the low-medium rainfall zones of southern NSW where it yields well and produces good sized grain. Drysdale has also performed well in mid to high rainfall areas of SNSW.

### SOIL TYPE

Drysdale is adapted to a broad range of soil types. Similarly to Diamondbird, Drysdale is tolerant of acid soils.

### DISEASE AND PEST RESISTANCE

Drysdale is moderately resistant to stem, leaf and stripe rust and is moderately susceptible to Septoria tritici blotch.

**Table 1.** Disease and pest reactions of Drysdale compared to several other commonly grown varieties.

Variety	Rust Resistance			Yellow Leaf Spot	CCN Res	Septoria tritici	Flag Smut	Blackpoint Tolerance	Acid Soil
	Stem	Stripe	Leaf						
Drysdale	R-MR	MS	MS	S	S	MS	R/MR	MS	T
Diamondbird	MR	MS	R	S	S	MR	R	-	T
H45	MR	VS	MR	MR	-	S	R	-	I-MI
Janz	R	MR-MS	MR-MS	S	S	MS-MR	MR	S-VS	I

Plant and Disease Terms: R- Resistant, MR - Moderately Resistant, MS - Moderately Susceptible, S - Susceptible, VS - Very Susceptible, VT - Very Tolerant, T - Tolerant, MT - Moderately Tolerant, MI - Moderately Intolerant, I - Intolerant, VI - Very Intolerant

Data Source: DNRE, SAFCEP

### MATURITY

Drysdale is an early-mid maturing cultivar that will flower at a similar time to Hartog and approximately 4-5 days earlier than Janz. NSW Agriculture recommends sowing for between the 2nd week in May and the 3rd week of June.

### PLANT CHARACTERISTICS

Drysdale is a semi-dwarf variety of similar height, maturity and chaff colour to Hartog and Diamondbird. Drysdale has a medium-short coleoptile, and has more early vigour than Janz. Drysdale will tiller more than H45, but less than Janz.

The low carbon isotope discrimination (high transpiration efficiency) of Drysdale compared to Hartog and Diamondbird results in significantly higher yields in drier seasons and regions. Drysdale has a higher yield when compared to Janz and Hartog in southern NSW.

### GRAIN QUALITY

Drysdale is a hard grained wheat that will be received into the Australian Hard (AH) segregation in southern and central NSW. Drysdale Northern NSW current classification is APW, this is currently under review with decision expected early April 2005. It will receive the maximum classification of APW in other states until further quality data is available.

 **YIELD**

Drysdale has performed very well in NSW yield trials – with best comparative yields achieved in drier seasons and regions. High grain yields have also been achieved in the higher rainfall environments of SNSW.

**Table 2.** NSW Agriculture long season yield data 1996-2002 yield data as a % of Janz and 2002 season yield data as a % Janz (number of experiments shown in brackets).

Variety	NSW long term (1996-2002) yield as a % of Janz				NSW Agriculture 2002 yield results as a % of Janz			
	North East	North West	South East	South West	South East	South West	North East	North West
<b>Drysdale</b>	<b>103 (9)</b>	<b>104 (13)</b>	<b>102 (48)</b>	<b>103 (38)</b>	<b>108 (13)</b>	<b>104 (6)</b>	<b>108 (7)</b>	<b>110 (5)</b>
Diamondbird	101 (64)	102 (78)	102 (94)	100 (74)	94 (12)	90 (6)	102 (8)	95 (5)
Janz	100 (84)	100 (107)	100 (94)	100 (74)	100 (12)	100 (6)	100 (8)	100 (5)
Mulgara	96 (61)	97 (72)	97 (19)	95 (18)	-	-	-	-
H45	107 (23)	109 (21)	106 (92)	106 (74)	105 (12)	105 (6)	109 (7)	-

Data Source: NSW Agriculture

 **AGRONOMIC GUIDELINES****Sowing**

- Sowing highly viable seed uniformly into a firm seedbed free of weeds, clods and trash will help increase yields. In general, sowing depth is recommended at <5cm, however a shallower depth may be required if conditions are wet and cold. Seed sown into soil treated with a pre-emergence herbicide must be kept below the layer of herbicide.
- Optimum rates vary widely across regions, and range from 40-70kg/ha in the lower rainfall areas to 50-110 kg/ha in the higher rainfall or irrigated areas. Aim to achieve plant densities of 150 – 200 plants/ m<sup>2</sup> in the higher rainfall zones or densities of 80-150 plants/ m<sup>2</sup> in lower rainfall areas.
- Seed treatments should be applied to the seed prior to sowing, for the control of smuts and other diseases.
- We recommend using the formula to correctly determine seeding rate. Seed counts are supplied with newly purchased seed.

1000 Seed Weight (grams)	x	Target Plant Population	÷	100	÷	Establishment % x Germination %
.....		.....				.....
= Your Seeding Rate.....kg/ha						

**Weed Control**

- Weed control in the early growth stages is critical for success. Preliminary herbicide screening data shows that Drysdale has not displayed unusual sensitivities to any of the commonly used herbicides when applied at recommended rates.

 **PLANT BREEDER RIGHTS AND ROYALTIES**

Drysdale is protected by Plant Breeder Rights, any unauthorised commercial propagation or any sale, conditioning, export, import or stocking of propagating material of this variety is an infringement under the Plant Breeder's Rights Act, 1994.

Growers are allowed to retain seed from production of this variety for their own use as seed only. An End Point Royalty of \$1.10 per tonne (GST inclusive), which includes breeder royalties, applies to this variety.

**ACKNOWLEDGMENTS**

Drysdale is based on a new breeding technology for drought tolerance developed by the Australian National University and CSIRO with support from growers through GRDC. It was bred and selected by Graingene (a Joint Venture between AWB Ltd, CSIRO, and GRDC) and NSW Agriculture.

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